COR 0895
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MEMORANDUM TO: Deputy Director (Plans)

SUBJECT : Ground Controlled Commands Available in CORONA Prime Vehicles

1. The following comments are submitted for your information.

2. The CORONA Prime System will have the following ground controlled commands available:

a. Period Adjust

b. Zero Reset

c. Skip/Repeat One Orbit

d. Camera Cycling Rate Selector (V/H Selector)

e. Camera Disabling Selector

3. All of the above items affect the manner in which the payload is utilized. However, the first three are designed primarily for vehicle and recovery control. The last two are for payload utilization only.

4. The Period Adjust command, which varies the speed of the control programmer, is used to insure that scheduled events occur in space as planned during pre-flight even though the actual flight period may differ from the nominal.

5. The Zero Reset has essentially the same purpose as the Period Adjust. During flight cumulative inaccuracies will cause the position of the programmer control tape to shift from its intended position in relation to the orbit path. The Zero Reset command will correct this and again match a given index on the tape with its corresponding position in the orbit.

6. The Skip/Repeat One Orbit is designed to insure that recovery can be accomplished in the most desirable area. Issuing this command will shift the programmer one full orbit in the desired direction. The vehicle will be on one revolution but its controlling device (the programmer) will be on a different revolution or a different sub cycle.

Since the vehicle obeys the orders of the programmer the vehicle will in effect have skipped or repeated one of its revolutions.

7. The Camera Cycling Rate Selector or V/H Selector is used to achieve the optimum cycling rate for the actual speed and altitude of the vehicle. This assures proper IMC as well as desired overlap.

8. The Camera Disabling Selector Command introduces an off switch between the controlling programmer and the camera causing the camera to stop operation. The camera can be enabled again by issuing a V/H Selector command. This used with the command control capability that will be available in the Hawaii, Vandenberg, Kodiak and New Boston control stations, will give Headquarters control of 75 percent of the flight line passes that will ordinarily be made over the USSR during each daily orbit of the vehicle.

9. These command control capabilities, coupled with the favorable location of the control stations, and timely weather briefings, place Project Headquarters in the advantageous position of being able to render command decisions based upon weather forecasts prepared from data that is only 6 to 12 hours old. Weatherwise, this is a near optimum situation.

10. A CORONA CPX was conducted 13-15 July 1960 that simulated utilization of these command controls. The CPX effectively proved that Project Headquarters has the proper operational procedures, necessary rapid communications, and the ability to obtain and utilize up-to-date weather information, to make correct command decisions to operate or not operate the camera over the USSR.

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DPD/OPS/COR Sect, [redacted]

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